



**[4910-13-P]**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2013-0637; Directorate Identifier 2013-SW-030-AD;  
Amendment 39-17830; AD 2014-08-06]**

**RIN 2120-AA64**

**Airworthiness Directives; Sikorsky Aircraft Corporation Helicopters**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** We are superseding Airworthiness Directive (AD) 2005-22-01 for Sikorsky Aircraft Corporation (Sikorsky) Model S-76A, B, and C helicopters. AD 5002-22-01 required inspecting the main rotor lower bifilar arm assembly (bifilar arm assembly) for a crack, and if there is a crack, replacing the bifilar arm assembly. AD 2005-22-01 also required a one-time test for the correct torque on the lug nuts, and if necessary, conducting torque stabilization tests. This new AD retains the requirements of AD 2005-22-01 and also requires replacing the main rotor hub (MRH) pilot with a different part-numbered MRH pilot, which is terminating action for the requirements of the AD. This AD was prompted by the development of a terminating procedure for the inspections required by AD 2005-22-01. We are issuing this AD to prevent failure of a bifilar lug, damage to the main rotor system, and subsequent loss of control of the helicopter.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of November 10, 2005 (70 FR 61721, October 26, 2005).

**ADDRESSES:** For service information identified in this AD, contact Sikorsky Aircraft Corporation, Attn: Manager, Commercial Technical Support, mailstop s581a, 6900 Main Street, Stratford, CT 06614; telephone (800) 562-4409; email [tsslibrary@sikorsky.com](mailto:tsslibrary@sikorsky.com); or at <http://www.sikorsky.com>. You may review service information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137.

#### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, any incorporated by reference service information, the economic evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Document Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Nicholas Faust, Aviation Safety Engineer, Boston Aircraft Certification Office, Engine & Propeller Directorate,

12 New England Executive Park, Burlington, Massachusetts 01803; telephone (781) 238-7763; email [nicholas.faust@faa.gov](mailto:nicholas.faust@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2005-22-01, Amendment 39-14345 (70 FR 61721, October 26, 2005) (AD 2005-22-01). AD 2005-22-01 applied to Sikorsky Model S-76A, B, and C helicopters with a certain MRH pilot installed. The NPRM published in the Federal Register on July 23, 2013 (78 FR 44048). AD 2005-22-01 required repetitively inspecting the bifilar arm assembly for a crack, and replacing the bifilar arm assembly if it has a crack. If there is not a crack, AD 2005-22-01 required a one-time test for the correct torque on the lug nuts, and if necessary, conducting torque stabilization.

After we issued AD 2005-22-01, Sikorsky produced a newly-redesigned pilot with a larger flange diameter that provides greater support for the bifilar assembly and reduces stress on the bifilar assembly attachment lugs. The NPRM proposed to retain the repetitive inspection requirements of AD 2005-22-01, but also proposed to require replacing the MRH pilot, part number (P/N) 76103-08003-101, with newly-redesigned MRH pilot, P/N 76103-08003-102, as terminating action.

### **Related Service Information**

Sikorsky issued S-76 Alert Service Bulletin (ASB) 76-65-62, dated December 14, 2004, which describes procedures for inspecting the lower bifilar assembly for a crack. Sikorsky has also issued ASB 76-65-65, Basic Issue, dated March 22, 2012, which

specifies measuring the MRH diameter and, if the diameter is small, replacing the MRH pilot with a newly-redesigned MRH pilot with a larger flange diameter.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM (78 FR 44048, July 23, 2013) or on the determination of the cost to the public.

### **Costs of Compliance**

We estimate that this AD affects 181 helicopters of U.S. Registry.

We estimate that operators may incur the following costs in order to comply with this AD:

- Inspecting the bifilar arm assembly requires about 4 work-hours, at an average labor rate of \$85 per hour, for a cost per helicopter of \$340 and a total cost to U.S. operators of \$61,540.
- Replacing a cracked bifilar arm assembly requires about 4 work-hours, at an average labor rate of \$85 per hour, and required parts cost about \$19,727, for a cost per helicopter of \$20,067.
- Replacing the MRH pilot, P/N 76103-08003-101, with an MRH pilot, P/N 76103-08003-102, requires about 0.7 work-hour, at an average labor rate of \$85 per hour, and required parts cost about \$1,043, for a cost per helicopter of \$1,103 and a total cost to U.S. operators of \$199,643.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator.

Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by removing Airworthiness Directive (AD) 2005-22-01, Amendment 39-14345 (70 FR 61721, October 26, 2005), and adding the following new AD:

2014-08-06 **Sikorsky Aircraft Corporation**: Amendment 39-17830; Docket

No. FAA-2013-0637; Directorate Identifier 2013-SW-030-AD.

#### **(a) Applicability**

This AD applies to Model S-76A, B, and C helicopters with a main rotor hub (MRH) pilot, part number (P/N) 76103-08003-101, installed, certificated in any category.

#### **(b) Unsafe Condition**

This AD defines the unsafe condition as a crack on the MRH pilot bifilar assembly lug, which could result in failure of a bifilar lug, damage to the main rotor system, and subsequent loss of control of the helicopter.

#### **(c) Affected ADs**

This AD supersedes AD 2005-22-01, Amendment 39-14345 (70 FR 61721, October 26, 2005).

**(d) Effective Date**

This AD becomes effective [INSERT DATE 35 DAYS AFTER PUBLICATION IN THE Federal Register].

**(e) Compliance**

You are responsible for performing each action required by this AD within the specified compliance time unless it has already been accomplished prior to that time.

**(f) Required Actions**

(1) For MRH pilots with 1,500 or more hours time-in-service (TIS), within 50 hours TIS, and thereafter at intervals not to exceed 50 hours TIS, inspect the lower bifilar arm assembly for a crack in the lug attachment area. Conduct the inspection of the lower bifilar arm assembly by following the Accomplishment Instructions, paragraphs 3.A.(1) through 3.A.(6), of Sikorsky Alert Service Bulletin No. 76-65-62, dated December 14, 2004 (ASB 76-65-62).

(i) If there is a crack on any bifilar assembly arm lug, before further flight, replace the bifilar arm assembly with an airworthy bifilar arm assembly.

(ii) If no crack is found at the initial inspection, perform a one-time torque test. Perform the torque test and the additional torque procedures as stated in the Accomplishment Instructions, paragraphs 3.B.(1) through 3.B.(3), of ASB 76-65-62. The torque test is not required at the recurring inspection intervals of the lower bifilar arm assembly.

(iii) Within 600 hours TIS, replace the MRH pilot, P/N 76103-08003-101, with an MRH pilot, P/N 76103-08003-102.

(2) For MRH pilots with less than 900 hours TIS, prior to accumulating 1,500 hours TIS, replace the MRH pilot, P/N 76103-08003-101, with a MRH pilot, P/N 76103-08003-102.

(3) After the effective date of this AD, do not install an MRH pilot, P/N 76103-08003-101, on any helicopter.

**(g) Special Flight Permit**

Special flight permits will not be issued.

**(h) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Boston Aircraft Certification Office, FAA, may approve AMOCs for this AD. Send your proposal to: Nicholas Faust, Aviation Safety Engineer, Boston Aircraft Certification Office, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, Massachusetts 01803; telephone (781) 238-7763; email [nicholas.faust@faa.gov](mailto:nicholas.faust@faa.gov).

(2) For operations conducted under a 14 CFR part 119 operating certificate or under 14 CFR part 91, subpart K, we suggest that you notify your principal inspector, or lacking a principal inspector, the manager of the local flight standards district office or certificate holding district office before operating any aircraft complying with this AD through an AMOC.

**(i) Additional Information**

For service information identified in this AD, contact Sikorsky Aircraft Corporation, Attn: Manager, Commercial Technical Support, mailstop s581a, 6900 Main Street, Stratford, CT 06614; telephone (800) 562-4409; email [tsslibrary@sikorsky.com](mailto:tsslibrary@sikorsky.com); or at <http://www.sikorsky.com>. You may review the service information at the FAA,



Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663,  
Fort Worth, Texas 76137.

**(j) Subject**

Joint Aircraft Service Component (JASC) Code: 6220: Main Rotor Head.

**(k) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(3) The following service information was approved for IBR on November 10, 2005 (70 FR 61721, October 26, 2005).

(i) Sikorsky Aircraft Corporation Alert Service Bulletin No. 76-65-62, dated December 14, 2004.

(ii) Reserved.

(4) For the service information identified in this AD, contact Sikorsky Aircraft Corporation, Attn: Manager, Commercial Technical Support, mailstop s581a, 6900 Main Street, Stratford, CT 06614; telephone (800) 562-4409; email [tsslibrary@sikorsky.com](mailto:tsslibrary@sikorsky.com); or at <http://www.sikorsky.com>.

(5) You may view this service information at FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137. For information on the availability of this material at the FAA, call (817) 222-5110.

(6) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to:

<http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Fort Worth, Texas, on April 11, 2014.

Kim Smith,

Directorate Manager, Rotorcraft Directorate,  
Aircraft Certification Service.

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